Amendments to the Claims

1. (*Currently Amended*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient at rest on a support surface, wherein is provided a predetermined patient turn interval, comprising:

(a) a patient location sensor for determining at least approximately a location of the patient on the support surface;

(b) a time circuit;

(c) a microprocessor in electronic communication with said patient location sensor and said time circuit, said microprocessor at least for

(c1) determining from said time circuit and said patient location sensor a time since the patient last moved significantly ~~changed location~~, and,

(c2) initiating a signal indicative of a state of the patient depending on at least said patient location and said time since the patient last moved significantly ~~changed location~~; and,

(d) an alarm in electronic communication with said microprocessor and responsive thereto, said alarm at least for responding to said signal indicative of a state of the patient to produce an alarm signal.

2. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**, wherein said patient location sensor is a bed mat.

3. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**, wherein said patient location sensor is a chair mat.

4. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**, wherein said patient location sensor is selected from a group consisting of a plurality of accelerometers, an infrared sensor, a video camera, an ultrasonic sensor, a plurality of strain gages, and, a plurality of inclinometers.

5. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**, wherein said alarm is selected from a group consisting of a speaker, a light, a buzzer, a pager, a piezoelectric device, and a beeper.

6. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**,

wherein said apparatus is for use with a bed, said bed having at least four legs, and wherein said location sensor includes at least one weight sensor positioned proximate to at least one of said bed legs.

7. (*Previously Presented*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **6**, wherein said bed has four legs and wherein said location sensor includes at least four weight sensors, one weight sensor being positioned under each of said four bed legs.

8. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**, wherein said support surface comprises

a mattress, and,

an approximately rectangular mattress support surface supporting said mattress,

wherein said location sensor includes a plurality of weight sensors, each of said plurality of weight sensors being placed proximate to a corner of said mattress support surface, thereby sensing at least the weight of the patient and the mattress together.

9. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **1**, wherein

said patient location sensor is a mat containing a plurality of sensor points thereon,

each of said plurality of sensor points being separately readable by said microprocessor,

said sensor points being for use in determining at least approximately a location of the patient.

10. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **9**, wherein said sensor points are temperature sensors.

11. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **9**, wherein said sensor points are piezoelectric elements.

12. (*Previously Presented*) An apparatus according to Claim **1**, wherein said microprocessor is chosen from a group consisting of a microcontroller, a PLD, a CPLD, an EPLD, a SPLD, a PAL, an FPLA, an FPLS, a GAL, a PLA, an FPAA, a PSoC, a SoC, a CSoC, and an ASIC.

13. (*Previously Presented*) A method for reducing the risk of occurrence of decubitus ulcers in a patient, comprising the steps of:

(a) selecting a patient turn interval;

(b) selecting a persistence time period;

(c) determining a first position of the patient;

(d) determining a start time contemporaneously with the determination of step (c);

(e) determining a current position of the patient;

(f) comparing said first position and said current position to determine if the patient has changed position;

(g) if the patient has not changed position,

(g1) determining an elapsed time since said start time,

(g2) comparing said elapsed time with said selected turn interval, and,

(g3) activating an alarm if said elapsed time exceeds said selected patient turn interval;

(h) if the patient has changed position,

(h1) continuing to monitor the patient for a period of time at least equal to the persistence time period,

(h2) if the patient returns at least approximately to said first position before the end of the persistence time period, continuing to monitor the patient until at least the end of said selected patient turn interval;

(h3) if the patient does not return to said first position before the end of the persistence period,

(i) determining a new first position,

(ii) determining a new start time contemporaneously with said determination of said new first position, and,

(iii) continuing to monitor the patient according to steps (e) through (h) using said new start time in place of said start time and said new first position in place of said first position.

14. (*Previously Presented*) A method for reducing the risk of occurrence of decubitus ulcers in a patient at rest on a support surface, comprising the steps of:

(a) selecting a patient turn interval;

(b) selecting a persistence time period, said persistence time period being less than said patient turn interval and greater than zero;

(c) determining an initial position of the patient on the support surface;

(d) continuously monitoring a patient's position on a support surface for a period of time at least as long as said patient turn interval;

(e) if, during the monitoring period, the patient did not move from said initial position, activating an alarm at the end of the patient turn interval;

(f) if, during the monitoring period, the patient moved from said initial position to a new position, but said new position was not maintained for a period of time at least as long as said persistence time period, activating an alarm at the end of the patient turn interval;

(g) if, during the monitoring period, the patient moved from said initial position to said new position, and said new position was maintained for a period of time at least as long as said persistence time period, continuing to monitor the patient until at least the end of the patient turn interval; and,

(h) performing at least steps (c) through (g) as necessary to reduce the risk of occurrence of decubitus ulcers in the patient.

15. (*Currently Amended*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient at rest on a support surface, wherein is provided a predetermined patient turn interval, comprising:

(a) a patient location sensor for determining at least approximately a location of the patient on the support surface;

(b) a time circuit;

(c) a monitor circuit in electronic communication with said patient location sensor and said time circuit, said monitor circuit at least for

(c1) determining from said time circuit and said patient location sensor a time since the patient last moved significantly ~~changed location~~, and,

(c2) initiating a signal indicative of a state of the patient depending on at least said patient location and said time since the patient last moved significantly ~~changed location~~; and,

(e) an alarm in electronic communication with said monitor circuit and responsive thereto, said alarm at least for responding to said signal indicative of a state of the patient to produce an alarm signal.

16. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient at rest on a support surface according to claim **15**, wherein said monitor circuit comprises a microprocessor.

17. (*Previously Presented*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient at rest on a support surface according to claim **15**, wherein said monitor circuit comprises a plurality of resettable analog timers.

18. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **15**, wherein said patient location sensor is selected from a group consisting of a bed mat, a chair mat, a plurality of accelerometers, an infrared sensor, a video camera, an ultrasonic sensor, a plurality of strain gages, and, a plurality of inclinometers.

19. (*Original*) An apparatus for reducing the risk of occurrence of decubitus ulcers in a patient according to Claim **15**, wherein said alarm is selected from a group consisting of a speaker, a light, a buzzer, a pager, a piezoelectric device, and a beeper.

20. (*Previously Presented*) An apparatus according to Claim **16**, wherein said microprocessor is chosen from a group consisting of a microcontroller, a PLD, a CPLD, an EPLD, a SPLD, a PAL, an FPLA, an FPLS, a GAL, a PLA, an FPAA, a PSoC, a SoC, a CSoC, and an ASIC.

21. (*Previously Presented*) An optical patient sensor for determining a position of a patient on a support surface, said patient sensor having a first end and a second end comprising:

(a) an upper external member;

(b) a lower external member, said upper and lower members having substantially the same peripheral dimensions and being positionable together to create an interior of said sensor therebetween;

(c) an optically transmissive central core positionable between said upper and lower members within said interior of said patient sensor, said central core having a first end and a second end, wherein,

(c1) said first end of said central core is proximate to a first end of said patient sensor and, said second end of said central core is proximate to said second end of said patient sensor,

(c2) said first end of the central core is positionable to be in optical communication with a light source,

(c3) said second end of the central core is positionable to be in optical communication with a light sensor,

(c4) said patient sensor is positionable to be underneath the patient,

(c5) said central core is elastically deformed by a patient's weight when so positioned underneath the patient, and,

(c6) an attribute of said light transmitted from said light source to said light sensor through said central core is a function of the patient's position on the support surface.

22. (*Original*) An apparatus according to Claim **21**, wherein said upper member and said lower member have at least approximately rectangular peripheral dimensions.

23. (*Original*) An apparatus according to Claim **21**, wherein said optically conductive core comprises at least one tube of optically transmissive plastic.

24. (*Original*) An apparatus according to Claim **23**, wherein said optically conductive core comprises at least one strand of fiber optic cable.

25. (*Original*) An apparatus according to Claim **21**, wherein said upper and lower members are impermeable to fluid.

26. (*Original*) An apparatus according to Claim **21**, wherein said light source is positionable to be proximate to said first end of said central core, wherein said light sensor is positionable to be proximate to said first end of said central core, and wherein at least a portion of the light reaching said second end of said central core is reflected back toward said first end of said central core.

27. (*Previously Presented*) An apparatus according to Claim **21**, wherein said optically transmissive central core comprises a sheet of optically conductive material.

28. (*Previously Presented*) An apparatus according to Claim **21**, wherein said amount of light transmitted from said light source to said light sensor through said optically transmissive central core is a function of whether or not the patient is present on the support surface.

29. (*Currently Amended*) An optical patient sensor according to Claim **21**, further comprising:

(d) a patient monitor in communication with said patient sensor, said patient monitor comprising,

(d1) a light source in optical communication with said optically ~~tranmissive~~ transmissive central core first end,

(d2) an optical pickup in optical communication with said optically transmissive central core second end,

(d3) a microprocessor in electronic communication with said light source and said optical pickup,

(d4) computer storage accessible by said microprocessor, said computer storage at least containing a plurality of instructions executable by said microprocessor for:

(i) determining an amount of attenuation of said light source as measured through said central core by said optical pickup, and,

(ii) determining the position of the patient on the support surface from at least said determined amount of attenuation.

30. (*Previously Presented*) An optical patient sensor according to Claim **21**, wherein said attribute of said light transmitted from said light source to said light sensor through said optically transmissive central core of (c6) is selected from a group consisting of an attenuation of said light, a frequency of said light, and a travel time of said light.

31. (*Currently Amended*) A method of determining a position of a patient on a support surface, comprising:

(a) placing an optically transmissive element beneath the patient, wherein

(a1) said optically transmissive element is deformed by a portion of the weight of the patient resting thereon, and,

(a2) an amount of light transmitted through said optically transmissive element varies as a function of the patient's position on the support surface;

(b) activating a light source;

(c) placing said light source in optical communication with said optically transmissive element;

(d) transmitting at least a portion of the light from said light source though at least a portion of said optically ~~tranmissive~~ transmissive element;

(e) measuring an attribute of any light so transmitted; and,

(f) determining from said measured attribute at least an approximate position of the patient's weight on said optically transmissive element; thereby at least approximately determining at least an approximate position of the patient on the support surface.

32. (*Previously Presented*) A method of determining a position of a patient on a support surface according to Claim **31**, wherein step (f) comprises the step of:

(f1) determining from said measured attribute whether or not the patient's weight is bearing on said optically transmissive element, thereby determining whether the patient is present on the support surface.

33. (*Currently Amended*) A method of determining a position of a patient on a support surface according to Claim **31**, wherein step (d) comprises the steps of:

(d1) transmitting at least a portion of the light from said light source through at least a portion of said optically ~~tranmissive~~ transmissive element, and,

(d2) reflecting back toward said light source at least a portion of the light transmitted through said at least a portion of said optically transmissive element, and,

wherein step (e) comprises the steps of:

(e1) receiving in a light sensor at least a portion of said reflected light, and,

(e2) measuring an attribute of any reflected light so received.

34. (*Original*) A method of determining a position of a patient on a support surface according to Claim **33**, wherein said light attribute of step (e) is selected from a group consisting of an attenuation of said transmitted light, a frequency of said light, and a travel time of said transmitted light.

35. (*Original*) A method of determining a position of a patient on a support surface according to Claim **31**, wherein said light attribute of step (e) is selected from a group consisting of an attenuation of said transmitted light, a frequency of said light, and a travel time of said transmitted light.